

ABSTRACT

Porous ceramics are described, which are produced by

- a) mixing an aqueous solution of a suitable ionotropically orientable polyanion, either with
- oxides, hydroxides or hydrated oxides, which are present in the form of a sol, of the metals Al, Zr, Ti and Nb,
  - or with finely crystalline oxides, hydroxides or hydrated oxides, which are present in suspension, of these metals,
  - or with finely crystalline tricalcium phosphate or apatite which are present in suspension,
- b) bringing the mixed sol obtained as in a) or the suspension obtained as in a) into contact with a solution of a salt of a di- or trivalent metal cation in order to produce an ionotropic gel body,
- c) compacting the gel body by introducing it into electrolyte solutions which further enhance the syneresis of the polyelectrolyte which was originally formed,
- d) washing the gel body with water and subsequently impregnating it with a readily volatile, water-miscible solvent,

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- e) freeing the anhydrous gel body or gel bodies obtained as in d) from the readily volatile, water-miscible solvent,
- f) burning out the organic constituents from the dry gel body or the dry gel bodies obtained as in e),
- g) sintering the product obtained as in f).

A capillary frit is also described. Moreover, the invention describes the use of these materials as a catalyst or as a catalyst support, as a ceramic component for composite materials, as a reversible flow filter and as a slab-like sorbent for chromatography columns, as well as the use of a composite material, which is produced from a granular material of the ceramics which are described, as a dental material, particularly as a dental cement.

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